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Recreation Survey and Creel Census on
Indian Creek, Opening Weekend, 1989

Introduction

Graduate Student Assistant Dawn Bumpass and I conducted a recreation use survey and creel census at Indian Creek on opening weekend of the 1989 trout season (April 29 and 30). Only the upper 11 miles of the creek, from Antelope Dam to Flournoy Bridge, were surveyed.

Past surveys have shown that opening weekend has the highest angling use of the year (but often not the best fishing), and this reach receives about 85 percent of the use on the entire creek. Thus, an opening weekend survey can provide a rough index to recreation use and angler success for a particular year.

Methods

Five one-hour counts of recreation use were conducted at regular periods each day according to available daylight hours. Surveys were conducted from vehicle or on foot as necessary. Recreators (and their vehicles) were counted and recorded by activity. Total estimated hours of activity were calculated by totaling the five daily counts and multiplying by factors to account for recreation use in the daylight periods not counted.

Recreationists were also interviewed to determine length of stay, activity participation, place of residence, and other visitor information.

The county of residence, length of time spent fishing, number, species, and fork length to the nearest 0.5 centimeter (cm), for each fish caught were recorded for each angler censused.

Results

Total recreation use for opening weekend was estimated at 1720 hours. Counts of recreators indicated that fishing was the major recreation activity on the weekend with an estimated 980 hours of use. Visitors spent about 610 hours camping, 80 hours sight seeing, 30 hours relaxing, and about 20 hours in other miscellaneous activities.

In addition to the use counts, 79 interviews were conducted, representing 217 recreationists. The interviews provided more detailed information on activity participation and additional information on visitor characteristics.

About 88 percent of the visitors interviewed said they would be fishing during their visit. Those who planned to spend time just relaxing amounted to 26 percent. Other activities included walking for pleasure (3 percent), picnicking (3 percent), sightseeing (3 percent), bicycling (3 percent). Percentages total more than 100 percent because visitors often participate in more than one activity per visit.

About 38 percent of visitors interviewed camped overnight along the creek. Visitors who were day users only (returning home at night) amounted to 40 percent. Those staying somewhere in the area (mostly at Antelope Lake) amounted to about 22 percent.

The county with the highest percentage of visitors was Plumas (27 percent). Visitors from Alameda County totaled 12 percent and visitors from Napa County and Contra Costa Counties totaled 10 percent each. About 41 percent came from other counties (Figure 1).

One hundred seventy-one anglers were censused. They had fished 418 hours (about 43 percent of estimated total hours of fishing effort) and caught 292 brown trout (0.70 per hour) and 46 rainbow trout (0.11 per hour), for a total catch per hour of 0.81. Lengths of brown trout ranged from 16.0 cm (6.3 in) to 41.0 cm (16.1 in), with a mean for length of 24.0 cm (9.4 in). Rainbow trout ranged in length from 15.0 cm (5.9 in) to 49.0 cm (19.3 in), with a mean fork length of 31.8 cm (12.5 in) (Figures 2 and 3). Seven bass (SMB or LMB) also were caught.

Anglers also reported catching and releasing an additional 18 brown trout, 5 rainbow trout, and 2 bass. We did not see these fish.

Discussion

In years when Antelope Reservoir spills and the release is maintained at 20 cfs, angler use and catch are usually above average. In 1989, Antelope Reservoir filled in early April and was spilling about 70 cfs on the opening weekend.

Weather was mild with temperatures reaching the low 70s (Fahrenheit). On Saturday, it was clear and breezy, while Sunday was cloudy, windy and cooler with rain showers in mid-morning. Water conditions were good; the creek appeared reasonably clear.

Overall, angling success in 1989 was the second best we have measured (Table 1) while angler use was about average for years when Antelope Lake fills and spills for a lengthy period. The catch per hour of brown trout was the highest we have measured reflecting the very large population of age 2+ brown trout which were produced in 1987. Conversely, only a few age 3+ brown trout were observed in the catch this year. Most of this year class was destroyed or washed down stream as juveniles by the record flood in late February and March, 1986.

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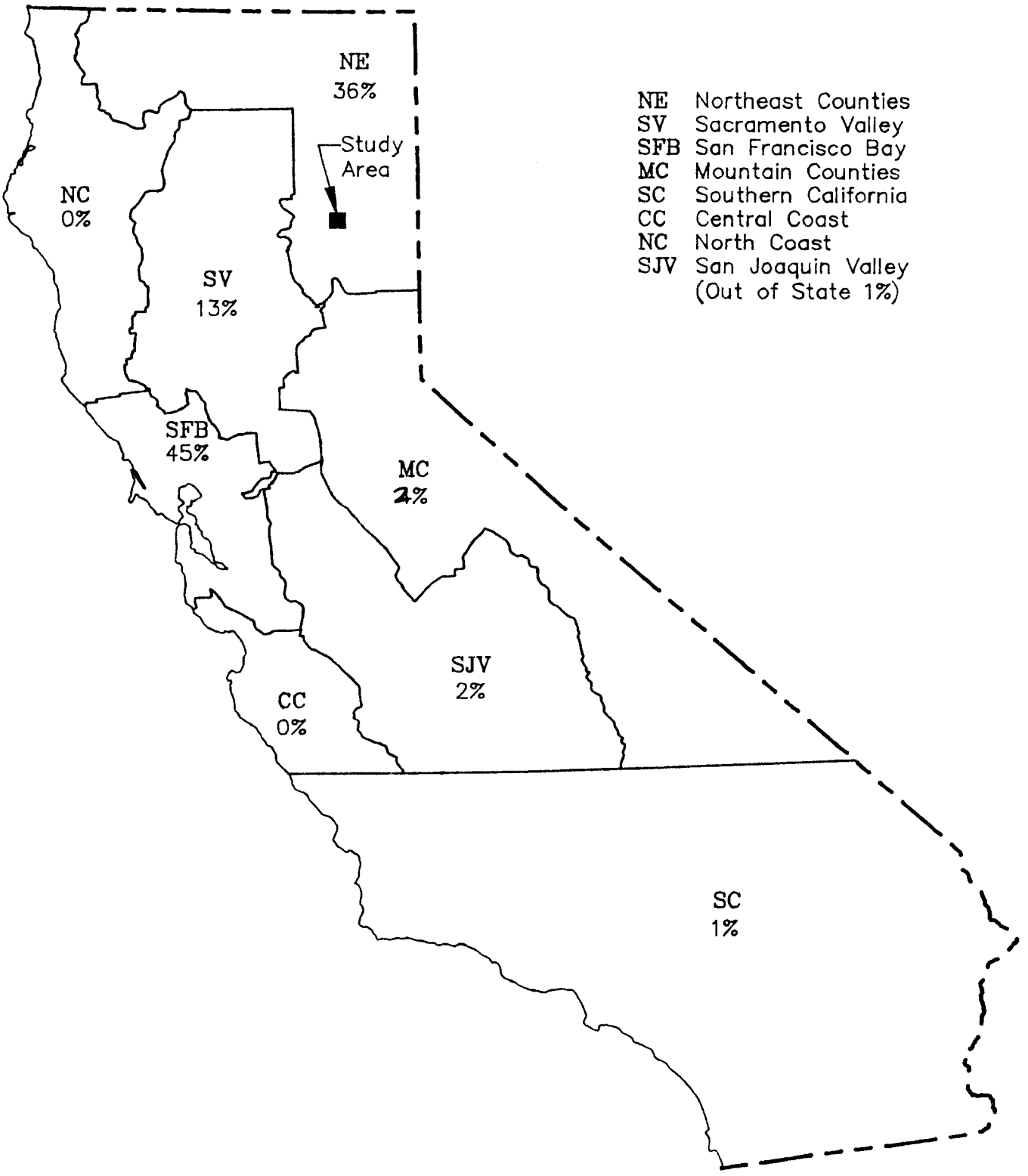

Figure 1 – Indian Creek Visitor Origin by County Groups April 29–30, 1989

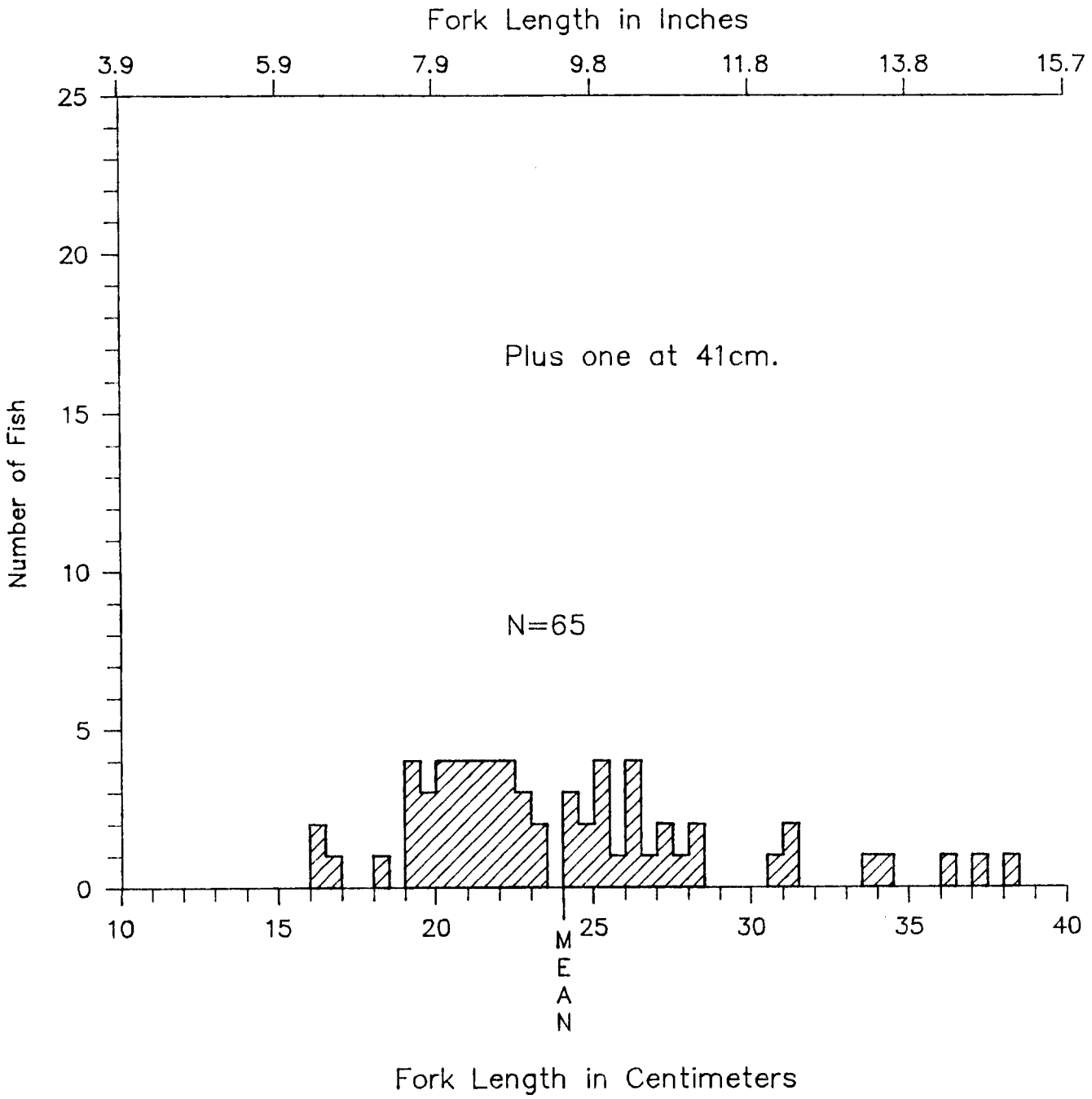

Figure 2 – Length Frequency of Censused Brown Trout, Indian Creek, April 29–30, 1989

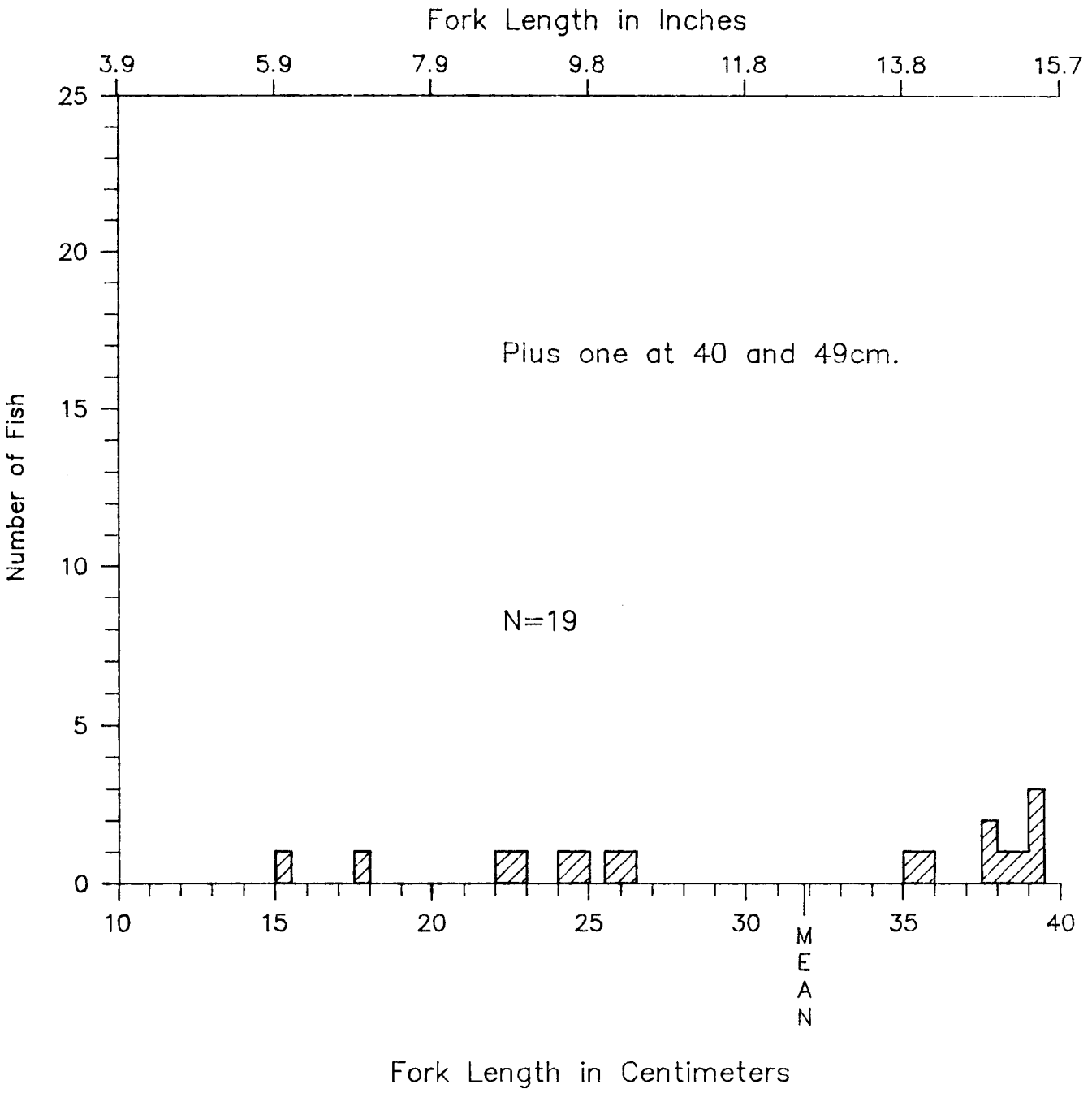

Figure 3 – Length Frequency of Censused Rainbow Trout, Indian Creek, April 29–30, 1989

TABLE 1

COMPARISON OF FISHING USE, STREAMFLOW CONDITIONS, AND RECREATION HOURS – 1978–1982, 1986–1989

Year	Streamflow Conditions	Opening Weekend Hours Fished	Opening Weekend BN CPH	Opening Weekend RT CPH	Annual Hours Fished	Annual BN CPH	Annual RT CPH	Annual Hours of Recreation
1978	Spill 46 days and 20 cfs	707	.47	.15	7,000	.50	.20	18,600
1979	Spill 20 days and 10 cfs	444	.16	.15	3,400	.39	.12	18,000
1980	Spill 177 days and 20 cfs	1,026	.35	.34	8,800	.34	.32	22,200
1981	No spill and 10 cfs	397	.37	.09	3,600	.39	.05	13,500
1982	Spill 237 days and 20 cfs	949	.28	.42	13,500	.32	.35	35,600
1986	Spill 123 days and 20 cfs	1,206	.38	.62	7,600	.35	.33	27,000
1987	No spill and 10 cfs	332	.24	.15	–	–	–	–
1988	No spill and 5 cfs	475	.36	.09	–	–	–	–
1989	Spill 81 days and 20 cfs	418 ?	.70	.11	–	–	–	–

Key: BN = Brown Trout
RT = Rainbow Trout
CPH = Catch Per Hour